NON-PUBLIC?: N
ACCESSION #: 8906010306
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Oyster Creek, Unit I PAGE: 1 of 3

DOCKET NUMBER: 05000219

TITLE: Manual Scram Due to Low Vacuum Condition Caused by Operator Error During Planned Shutdown
EVENT DATE: 04/22/89 LER #: 89-011-00 REPORT DATE: 04/22/89

OPERATING MODE: N POWER LEVEL: 002

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION

50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
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COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE TO NPRDS:

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT:

On April 22, 1989 at 1850 hours, the mechanical vacuum pump was placed into service in order to maintain condenser vacuum during a planned shutdown evolution. The equipment operator who placed the vacuum pump into service failed to properly align the seal water makeup supply. At 1935 hours a gradual decrease in the main condenser vacuum was noted. The rate of decrease in condenser vacuum prevented any significant attempts to correct the problem so the Group Shift Supervisor directed. the operators to manually scram the reactor at 1945 hours. The cause of this occurrence is attributed to operator error. The operator failed to establish a complete valve lineup to the seal water makeup supply in accordance with the operating procedure. Starting the mechanical vacuum pump is a simple evolution but infrequently performed by individual operators. Operators are not required to have a procedure in hand when performing a simple or routine evolution. This contributed to the oversight by the operator. Without seal water makeup the mechanical vacuum pump operated properly until the seal water tank emptied which then caused a significant air leak to the main condensers. This caused the decrease in

condenser vacuum which resulted in the reactor scram. The safety significance of this event is minimal because the reactor was at low power (approximately 2%) when the event occurred. To prevent a similar occurrence in the future, other infrequently performed evolutions that currently do not require a procedure in hand will be reviewed to determine if further guidance is warranted.

END OF ABSTRACT

DATE OF OCCURRENCE

The event occurred on April 22, 1989 at approximately 1945 hours.

IDENTIFICATION OF OCCURRENCE

On April 22, 1989 the reactor was manually scrammed due to a low condenser vacuum condition. This condition is considered reportable in accordance with 10CFR50173(a)(2)(iv).

CONDITIONS PRIOR TO OCCURRENCE

The reactor was in the process of a startup from an outage when a pinhole leak was observed in a Core Spray System pipe weld during the 1000 psig inspection. The reactor was being shutdown to facilitate repairs. Plant conditions immediately prior to the scram were as follows: reactor power was approximately 2% with the turbine generator offline, reactor pressure was 630 psig decreasing with a condenser vacuum of 23.2 inches Hg decreasing.

DESCRIPTION OF OCCURRENCE

On April 22, 1989 at 1850 hours with a condenser (IEEE-CFR-COND) vacuum of 29 inches Hg, the mechanical vacuum pump (IEEE-CFI-P) was placed into service to maintain vacuum during the shutdown evolution. The equipment operator who placed the vacuum pump into service failed to properly align the seal water makeup supply. At 1935 hours a gradual decrease (.33 inches Hg per minute) in condenser vacuum was noted. When the operators noticed the decrease in vacuum they suspected the steam jet air ejectors (SJAE) due to fluctuations in the steam supply pressure. The steam jet air ejectors were removed from service and vacuum decreased at a faster rate (1.02 inches Hg per minute) so operators placed them back into service. The rate of decrease in condenser vacuum prevented any further attempts to correct the problem so the Group Shift Supervisor directed the operators to manually scram the reactor at 1945 hours with a condenser vacuum of 23.2 inches Hg. Automatic scram signals on low vacuum (23 inches Hg) operated properly as vacuum continued to decrease.

Operators controlled reactor level and pressure and condenser vacuum was stabilized by supplying seal water to the vacuum pump. The plant was then cooled down to a cold shutdown condition in accordance with appropriate procedures.

APPARENT CAUSE OF OCCURRENCE

The cause of this occurrence is attributed to operator error. The operator failed to establish a complete valve lineup to the seal water makeup supply in accordance with the operating procedure. Starting the mechanical vacuum pump is a simple evolution but infrequently performed by individual operators. Operators are not required to have a procedure in hand when performing a simple or routine evolution. This contributed to the oversight by the operator. Without seal water makeup the mechanical vacuum pump operated properly until the seal water tank emptied which then caused a significant air leak to the main condensers. This caused the decrease in condenser vacuum which resulted in the reactor scram.

ANALYSIS OF OCCURRENCE AND SAFETY ASSESSMENT

A post trip review was performed for this event which determined that all automatic actions that should have occurred did occur and that plant response and operator action in response to the conditions present was appropriate. The safety significance of this event is considered minimal since this event resulted in an unnecessary challenge to the reactor protection system at a very low power level with a low decay heat inventory.

CORRECTIVE ACTION

To prevent a similar occurrence in the future, the procedures in hand requirement shall apply to this evolution. Other infrequently performed evolutions that currently do not require a procedure in hand will be reviewed to determine if further guidance is warranted.

SIMILAR EVENTS

None.

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May 22, 1989

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Licensee Event Report

This letter forwards one (1) copy of Licensee Event Report (LER) No. 89-011.

Very truly yours,

E. E. Fitzpatrick
Vice President and Director
Oyster Creek

EEF/KB:aa
(0490A:21)

Att.

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